APPENDIX I

(See paragraph – 6)

FORM 1

(I) Basic Information

Sl. No.	Item	Details
1.	Name of the project/s	***Yermaras Thermal Power Station.***
2.	S.No. in the schedule	
3.	Proposed capacity/area/length/ tonnage to be handled/command area/lease area/ number of wells to be drilled	2 x 800 MW
4.	New/Expansion/Modernization	New
5.	Existing capacity/area etc.,	Nil
6.	Category of Project i.e 'A' or 'B'	A
7.	Does it attract the general condition? If yes, please specify	No
8.	Does it attract the specific condition? If yes, please specify	No
9.	Location	Chikkasugur
	Plot/Survey/Khasra No.	Survey nos are enclosed in **Annexure-1**
	Village	Yegnur, Chikkasugur, Kukunur villages
	Tehsil	Raichur
	District	Raichur
	State	Karnataka
10.	Nearest railway station/airport along with distance in Kms	Yermarus Railway station- 2.0 Kms
11.	Nearest Town, city, District Headquarters along with distance in Kms	Raichur – 8.0 Kms`
12	Village Panchayats, Zilla Parishad, Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given)	Chikkasugur village, Raichur Taluk & District, Karnataka
13	Name of the applicant	K.V. Venkatachalapathi
14	Registered Address	Yermarus Thermal Power Station Chikkasugur – 584 134 Raichur dist, Karnataka
15	Address for correspondence:	
	Name	K.V. Venkatachalapathi
	Designation (Owner/Partner/CEO)	Chief Engineer(Elect)
	Address	Chikkasugur
	Pin Code	584 134
	E-Mail	ceerpcl@gmail.com
	Telephone No.	08532 286 001
	Fax No.	08532 286 002
16	Details of Alternative Sites examined, if any. Location of these sites should be shown on a topo sheet	Village-District-State 1. Kadlur 2. Nangalapur

		3. Yermarus Location map is enclosed in **Annexure–2**
17	Interlinked Projects	Nil
18	Whether separate application of interlinked projects has been submitted?	Nil
19	If yes, date of submission	Nil
20.	If no, reason	Nil
21	Whether the proposal involves approval/clearance under: If yes, details of the same and their status to be given. (a) The Forest (Conservation) Act, 1980 ? (b) The Wildlife (Protection) Act, 1972 ? (c) The C.R.Z Notification, 1991 ?	Not Applicable
22	Whether there is any Government Order/Policy relevant/relating to the site ?	The land area acquired by KIADB for establishing Thermal Power Station by KPCL is about 352 ha.
23	Forest land involved (hectares)	- Nil -
24	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders/directions of the Court, if any and its relevance with the proposed project.	- Nil -

(II) Activity

1. **Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)**

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)	**Yes**	The land area acquired by KIADB for establishing Thermal Power Station by KPCL is about 352 ha. The area is mostly barren and leveled. The project site is located at an average elevation of about 407 m above MSL.
1.2	Clearance of existing land, vegetation and buildings?	**No**	Barren land acquired by KIADB will be utilized for the proposed

			project. The land does not have any vegetation and/ or building. Minor shrubs in the area needs to be cleared.
1.3	Creation of new land uses?	**Yes**	Establishing the proposed Thermal Power Plant
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	The preliminary Geological investigation on the proposed site reveals the following: • Geology- Granitic Gneiss forms the main rock type except few schist patches. • Soil- Depth of soil varies from 6 – 9 m. various soil types have been found in the project site viz., top alluvial / black cotton soil, white murrum, red murrum. • Groundwater- Groundwater table varies in the area from 50 to 60 m.
1.5	Construction works?	Yes	Construction works include: i) Main plant building ii) Boiler structure iii) Transformer bay iv) Switch yard v) Chimney vi) Coal handling system vii) Water system (DM plant & CW pump house) viii) Cooling towers ix) Ash Handling unit x) Raw water pond xi) Administrative building and other miscellaneous buildings like ESP control room, Switch yard control room, Diesel generator building, Fuel oil pump house, Raw water pump house etc,.
1.6	Demolition works?	**No**	-
1.7	Temporary sites used for construction works or housing of construction workers?	No	All the works are being executed through contractors. Labour camps have been established by the

			contractors. Labour camps are provided with amenities like drinking water supply, health & sanitation and medical facilities.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	The building construction works for the proposed project include: i) Main plant building ii) Boiler structure iii) Transformer bay iv) Switch yard v) Chimney vi) Coal handling system vii) Water system (DM plant & CW pump house) viii) Cooling towers ix) Raw Water Pond x) Ash Handling Plant ix) Administrative building and other miscellaneous buildings like ESP control room, Switch yard control room, Diesel generator building, Fuel oil pump house, Raw water pump house etc. The excavated earth is being used for embankment etc., to the extent possible.
1.9	Underground works including mining or tunneling?	Yes	Such as wagon tippler, transfer houses, underground conveyors and circulating water piping system
1.10	Reclamation works?	No	-
1.11	Dredging?	No	-
1.12	Offshore structures?	No	-
1.13	Production and manufacturing processes?	Yes	The project is for power generation to an extent of 1600 MW using coal as main fuel.
1.14	Facilities for storage of goods or materials?	Yes	The fuel oil storage facility consists of two HFO tanks, each of capacity 2000 KL and LDO tank of capacity 750 KL located in the dyke area. The dyke area and the system is designed in accordance with the existing rules of the Inspectorate of Explosives, Government of India.

			Coal will be stacked in the coal stackyard. The yard will be having 30 days storage capacity.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	Solid wastes generated during the operation phase from the power plant operations will be: • Fly ash and bottom ash (1.45 Million tones per year) • Sludge from DM plant & ETP / PTP Sludge - about 3 lakhs cum/year The disposal of the above wastes will be as follows: • The collection of fly ash in dry form in silos for utilization in cements plants and for manufacturing other construction materials like bricks, paver blocks, filling low laying areas etc. • The disposal of bottom ash and unutilized fly ash in slurry form into the already existing ash pond in Raichur Thermal Power Station. • Effluent treatment plant will be set up to treat all the liquid effluents generated in the plant area. The effluents generated in the proposed thermal plant will be mainly inorganic in nature and the treated effluents will be used for secondary usages. Sludge from the treatment plant will be disposed off suitably. Schematic diagram of the ETP enclosed as **Annexure- 3**. Construction wastes from the proposed project is limited and will be disposed off as per the guidelines

			of KSPCB. No residential colony is proposed for this project. The sludge from sewage treatment plant will be used for horticultural purposes.
1.16	Facilities for long term housing of operational workers?	No	No residential colony is proposed. Employees will be accommodated in the existing RTPS colony
1.17	New road, rail or sea traffic during construction or operation?	Yes	Construction of access roads to the plant for the transportation of raw materials and personnel's etc., will be minimal as it will be confined within the project site.
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	-
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	-
1.20	New or diverted transmission lines or pipelines?	Yes	For evacuation of power generated in this plant, feeders will be connected to Bellary Pooling Station Separate jackwell pump house with piping will be provided for feeding raw water to thermal station.
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	-
1.22	Stream crossings?	No	-
1.23	Abstraction or transfers of water form ground or surface waters?	Yes	The water required for the project will be obtained from River Krishna, which is at a distance of about 10 km from the project site. The Government of Karnataka has already allotted 3.60 TMC per year water from River Krishna to the proposed project. The drawl will be limited to the allocated quantity.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	No	-
1.25	Transport of personnel or materials for	Yes	Personnel transportation will be by private or public transport.

	construction, operation or decommissioning?		Construction Material will be transported during construction stage of the power plant through the access road. During operation phase Coal, HFO and LDO will be transported to the plant by rail.
1.26	Long-term dismantling or decommissioning or restoration works?	No	-
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	-
1.28	Influx of people to an area in either temporarily or permanently?	Yes	During construction phase labourers are being employed by the contractors, temporarily.
1.29	Introduction of alien species?	No	-
1.30	Loss of native species or genetic diversity?	No	-
1.31	Any other actions?	No	-

2. **Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):**

S.No.	**Information/checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities /rates, wherever possible) with source of information data**
2.1	Land especially undeveloped or agricultural land (ha)	Yes	The land identified for the Thermal Power Plant is undeveloped / barren land acquired by Karnataka Industrial Area Development Board (KIADB) and reserved for Karnataka Power Corporation Limited. Total area available is about 352 ha.
2.2	Water (expected source & competing users) unit: KLD	Yes	The water required during different phases of the project are- Construction Phase- 120 KLD

			Water required during construction phase will be met through KIADB source. Operational Phase- 3605 m^3/hr This requirement will be met by taking water from River Krishna, for which approval has already been obtained from the Water Resources Department (Government of Karnataka).
2.3	Minerals (MT)	Yes	Mainly Coal – 18795 tonnes per day
2.4	Construction material – stone, aggregates, sand / oil (expected source – MT)	Yes	Approximate quantity of construction materials : .i) Stone/Aggregate = 1,80,000 m^3 ii) Sand = 90,000 m^3 The above construction material for the power plant will be mainly obtained from quarries near Raichur.
2.5	Forests and timber (source – MT)	No	-
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Energy during construction will be obtained from KPTCL – 4 MVA The coal required during operational phase will be either from Singareni / South East / Mahanadi Coal Fields
2.7	Any other natural resources (use appropriate standard units)	No	-

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities/rates, wherever possible) with source of information data**
3.1	Use of substances or materials, which are hazardous	Yes	In the proposed Power Plant,

	(as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)		the substances/ materials which are hazardous as per the MSIHC rules are mainly HFO and LDO, which will be used for startup and oil support for low load operations. In addition to that HCl will also be required. All the necessary safety precautions will be taken as per the guidelines of KSPCB/ CPCB.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	Adverse impacts may be due to dust & gaseous emissions as well as discharge of effluents into water bodies. However, it is planned to install the pollution control devices to control emissions at source. Also, effluents will be treated as per the guideline of KSPCB/ CPCB to meet the discharge standards on land/ water body. In addition to that all other precautionary and safety measures will be taken to avoid any adverse impact.
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	The project will provide additional direct / indirect employment opportunities as a positive impact of the project for the welfare of people.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	-
3.5	Any other causes	No	-

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities/rates, wherever possible) with source of**

			information data
4.1	Spoil, overburden or mine wastes	No	The project site is almost flat and hence no major earthwork is involved. All the excavated earth will be used within the project site to the extent possible.
4.2	Municipal waste (domestic and or commercial wastes)	Yes	All measures towards health and sanitation of the construction labourers will be ensured. During the operation phase, some municipal waste will be generated from the facilities like administrative office, staff quarters, guest house, training centre etc., which will be disposed off as per the guidelines given in Municipal Solid Waste (Management & Handling) Rules, 2000.
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	From the proposed project hazardous waste will be generated in the form of waste oil, empty oil barrels, grease, lubricating and insulating oils from Turbo generator and Transformer. Waste oil will be collected in dedicated drums and stored on impervious concrete floor. The same will be sold to the vendors authorized by MOEF/ KSPCB for recycling.
4.4	Other industrial process wastes	Yes	Total Ash is 198 TPH
4.5	Surplus product	No	-
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Effluent treatment plant will be set up to treat the liquid wastes. Sludge from the treatment plant and from DM plant will

			be suitably disposed off.
4.7	Construction or demolition wastes	Yes	Construction waste will be minimized as much as possible. Excavated earth will be utilized for embankment etc., within the project site.
4.8	Redundant machinery or equipment	No	-
4.9	Contaminated soils or other materials	No	The waste oil from the power plant will be collected and stored in empty oil barrels/containers. The barrels/containers will be stored in an open and isolated place inside the plant having concrete ground and shed on top. Finally these will be sold to authorized recyclers approved by KSPCB/CPCB as per the Hazardous Waste (Management & Handling) Rules 1989 and amended thereafter.
4.10	Agricultural wastes	No	-
4.11	Other solid wastes	No	-

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	SO_2 :6325 NOx :3925 SPM :158
5.2	Emissions from production processes	Yes	Same as 5.1.

5.3	Emissions from materials handling including storage or transport	Yes	Fugitive emissions from coal handling are anticipated. Coal stack yard and conveyors for transporting coal from yard to silos may generate fugitive emissions.
5.4	Emissions from construction activities including plant and equipment	Yes	Fugitive emissions during construction phase in the form of dust from the construction activities.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust will be generated from coal handling (loading and unloading) and coal crushing unit during operation phase and due to civil work during construction activities.
5.6	Emissions from incineration of waste	No	-
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	-
5.8	Emissions from any other sources	No	-

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	During construction phase noise is being generated from various construction machineries such as: • **Earth Movers** ▪ Tractors ▪ Front Loaders ▪ Backhoes ▪ Dozers • **Material Handlers**

			▪ Concrete mixers ▪ Concrete pumps ▪ Cranes ▪ Vehicular Traffic (construction material & plant machinery) During operation phase noise will be generated from the following equipment: • Turbo-generators • Crushers • Pumps • DG Sets • Air Compressors
6.2	From industrial or similar processes	Yes	The noise is generated from steam turbines and leakage of steam if any
6.3	From construction or demolition	Yes	Noise generation is from construction activities. However, necessary measures are being taken to minimize any disturbance caused during construction.
6.4	From blasting or piling	Yes	Controlled / muffled blasting are being carried out during hard rock excavation which is very minimal
6.5	From construction or operational traffic	Yes	Since the project area is close to State Highway and railway track, emissions from vehicular traffic is also there. During operational phase maintenance of vehicles will be ensured to minimize the emissions.
6.6	From lighting or cooling systems	No	-
6.7	From any other sources	No	-

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	-
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	Sewage water and other effluent will be treated before using it for secondary usages, Gardening.
7.3	By deposition of pollutants emitted to air into the land or into water	No	Air emissions will be from the stacks of Power Plant and vehicular traffic on the State Highway. Also, fugitive emissions will be from coal handling. Stack of height 275 m will be provided as per CPCB norms. Moreover, Dust Suppression / Extraction system will also be provided.
7.4	From any other sources	No	-
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	-

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	All necessary precautionary measures are being taken to avoid any accidents.
8.2	From any other causes	No	-
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	No flooding or earthquake disaster is reported in this area in the past. As per the Seismic Zoning Map of India, the site falls in Zone II i.e. low seismic intensity area.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting. lities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industries • supply industries	Yes	The project will lead to the development of additional infrastructure in the area which will contribute to the development to the area.

	• other		
9.2	Lead to after-use of the site, which could have an impact on the environment	Yes	Access road to the plant will be constructed which will help the transport of materials and personnel and treatment of effluent for its use in development of greenbelt development.
9.3	Set a precedent for later developments	No	-
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	Yes	Existence of Raichur Thermal power plant (7 x 210) MW and 1x250MW) about 6 km from the proposed site.

(III) Environmental Sensitivity

S.No.	**Areas**	**Name/ Identity**	**Aerial distance (within 15 km.) Proposed project location boundary**
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	No	-
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	Yes	River Krishna – 10 kms (North direction)
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	-
4	Inland, coastal, marine or underground waters	No	
5	State, National boundaries	Yes	State boundary (Andhra Pradesh) – 12 km
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Yes	State Highway (beside the project site)

7	Defence installations	No	-
8	Densely populated or built-up area	Yes	Raichur – 14 km
9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*	Yes	Raichur Thermal Power Station residential colony at Shaktinagar at about 7 km from the proposed site.
10	Areas containing important, high quality or scarce resources *(ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)*	Yes	Surface water source – River Krishna at about 12 km from the proposed site (North direction).
11	Areas already subjected to pollution or environmental damage. *(those where existing legal environmental standards are exceeded)*	No	-
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (*earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions*)	No	-

(IV). Proposed Terms of Reference for EIA studies

"I hereby given undertaking that the data and information given in the application and enclosures and true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance give, if any to the project will be revoked at our risk and cost.

Date: 14.11.2014
Place: Chikkasugur

(K.V.VENKATACHALAPATHI)
Chief Engineer(Elect)
Yermarus Thermal Power Station,
Chikkasugur, Raichur Dist- 584134